*Compliments of*

*R. C. Kedzie, M. D.,*

*Member of the State Board of Health,*

*LANSING, MICH.*

[Circular.]

# Michigan State Board of Health,

*Grand Rapids, April, 1874.*

To the President of the Local Board of Health:

Sir:—This circular is issued for the purpose of respectfully calling the attention of local Boards of Health to the law and to their duties relative to *diseases dangerous to the public health.*

All "diseases dangerous to the public health" are greatly modified in character, and some of them largely preventable, through those agencies which ensure to a people, air free from contamination with either the effluvia from animal, or the miasm from vegetable, decomposition, and which also secure to them pure water and wholesome food.

To aid in securing these, so far as possible, is one of the first and constant duties of a local Board of Health.

Among the sources from which are generated active causes of disease and death, are the following: slaughter-houses, soap-boiling factories, bone and fat-rendering establishments, tanneries, pig-sties, neglected privies, and stables, filth-sodden grounds, putrescent animal or vegetable materials, filth from whatever source, foul cellars, imperfect water-closets, foul or obstructed sewers or house-drains, mill-ponds, swamps, marshes, cesspools, stagnant water, imperfect ventilation of places of public resort, diseased meat, stale fish, impure milk, unripe fruit, decayed vegetables, adulterated food, and impure water;—the latter may be contaminated from too close proximity to a privy-vault, or an imperfect sewer or house drain, at other times by surface water.

It is the duty of a local Board of Health to remove, as effectually as possible, all local causes of disease, by a thorough system of inspection, of disinfection and by the reconstruction, or the condemnation and removal or destruction, of the sources from which are generated these causes, and whenever there are reasons for expecting the possible visitation of a contagious or infectious disease, or during the prevalence of an epidemic or endemic disease, the obligation to remove these causes becomes imperative.

For the law relating to this subject you are referred to sections 1694, 1699, and 1737, Compiled Laws of 1871, which are as follows:

"(1694.) Sec. 3. The board of health shall make such regulations respecting nuisances, sources of filth, and causes of sickness, within their respective townships, and on board of any vessels in their ports or harbors, as they shall judge necessary for the public health and safety; and if any person shall violate any such regulations, he shall forfeit a sum not exceeding one hundred dollars."

"(1699.) Sec. 8. The board of health shall examine into all nuisances, sources of filth, and causes of sickness that may, in their opinion, be injurious to the health of the inhabitants within their township, or in any vessel within any harbor or port of such township; and the same shall destroy, remove, or prevent, as the case may require."

"(1737.) Sec. 46. The township board of every township, the president and trustees, or council, of every village, and the mayor and aldermen of every city, respectively, when they shall judge it necessary, shall, from time to time, assign certain places for the exercising of any trade or employment offensive to the inhabitants or dangerous to the public health; and they shall forbid the exercise thereof in places not so assigned; and all such assignments shall be entered in the records of the township, village, or city, and they may be revoked when the said township, village, or city officers may think proper."

It is recommended that every local Board of Health, which has not already done so, appoint a competent physician as health officer, in accordance with section 1693, Compiled Laws of 1871; and further, that they urge upon the people of their township to make permanent provision for the vaccination of all persons within their jurisdiction, free of charge, in accordance with section 1736, Compiled Laws of 1871, and Boards of Health of Cities and incorporated Villages are recommended to secure similar action in reference to vaccination.

## Small-pox and other contagious and infectious diseases.

Sections 1734 and 1735, Compiled Laws of 1871, are as follows:

"(1734.) Sec. 43. Whenever any householder shall know that any person within his family is taken sick with the small-pox, *or any other disease dangerous to the public health*, he shall immediately give notice thereof to the board of health or to the health officer of the township in which he resides; and if he shall refuse or neglect to give such notice, he shall forfeit a sum not exceeding one hundred dollars."

"(1735.) Sec. 44. Whenever any physician shall know that any person whom he is called to visit is infected with the small-pox, *or any other disease dangerous to the public health*, such physician shall immediately give notice thereof to the board of health or health officer of the township in which such diseased person may be; and every physician who shall refuse or neglect to give such notice, shall forfeit, for each offense, a sum not less than fifty nor more than one hundred dollars."

No definite form of notification is prescribed by law, but it is requested the one be used which is recommended by the State Board of Health in circular No. 2, a copy of which is herewith given; and to ensure a more certain and perfect compliance with the law, it is recommended that every local Board of Health keep a supply of these blank notifications for distribution among physicians, and when necessary to citizens.

[Form of Notice recommended by the State Board of Health for the use of Householders and Physicians, in complying with sections 1784 and 1785, Compiled Laws of 1871.]

*To the Clerk of the**.....*of*..... *County of*.....
*State of Michigan, as Clerk of the Board of Health:*

SIR:—The following persons in your*.....have been taken sick with "diseases dangerous to the public health."†

| NAMES OF PERSONS. | SEX. | AGE LAST BIRTH-DAY. | NAME OF DISEASE. | TAKEN SICK. | | | WHETHER DIED, LIVING, OR RECOVERED. | DATE OF DEATH OR RECOVERY. | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | MONTH. | DAY. | YEAR. | | MONTH. | DAY. | YEAR. |
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So far as known, the source... of the contagious or infectious cause... of the disease.....as follows: For case No. 1, it was.....

Dated at.....187...

Furnished for record by.....

*Insert the word township, city, or village.
†Includes Small-pox, Cholera, Scarlet Fever, Typhoid Fever, Measles, Wooping Cough, etc.

The sure means of arresting the spread of small-pox are, vaccination of the people, isolation of the infected person, absolute quarantine of the household or hospital where the diseased person is lying, cleanliness, ventilation, disinfection of all excreta from the infected, and, after the termination of the case, either the thorough disinfection of all clothing, bedding, carpets, window-hangings, etc., or their destruction, and the disinfection of the furniture, upholstery, and room, or apartments, and building in which the infected person has been lying.

For the law upon quarantine, not already noticed, you are referred to sections 1718 to 1725 inclusive, of Compiled Laws of 1871, and for the law referring to small-pox, and other dangerous diseases not heretofore noticed in this circular, you are referred to section 1695, sections 1706 to 1715 inclusive, and sections 1726 to 1733 inclusive, of Compiled Laws of 1871.

SCARLET FEVER is a *contagious* or *infectious* disease, and as such requires the same means of prevention as *small-pox* (except vaccination), including "isolation of the infected person, absolute quarantine of the household or hospital where the diseased person is lying, cleanliness, ventilation," and all the methods of disinfection hereinafter enumerated, in connection with the disinfection of excreta from the infected, the disinfection of clothing, bedding, furniture, and rooms, and also fumigation. When *scarlet fever* exists in a community, the preventive means should be applied with the same energy and perseverance as is done during the prevalence of *small-pox*.

The number of deaths in Michigan during the year 1870 from *small-pox* were *nine* (9); from *scarlet fever*, *eight hundred and fifty-two* (852). If it is worth while to attempt to decrease the number of deaths from *small-pox* below nine (9) a year, is it not an imperative duty to reduce the number of deaths from *scarlet fever* from 852 a year to a number that will, in a measure, approximate that of deaths from other *contagious* and *infectious* diseases?

Besides these 852 persons who died of scarlet fever during the year 1870, there remain living, hundreds of those who struggled through the painful stages of this frequently destructive disease, and are left with partial and permanent deafness, and with constitutions hopelessly impaired.

There are those who believe that scarlet fever is not contagious, because many persons exposed do not contract the disease, and also because this disease sometimes makes its appearance almost simultaneously in different localities widely separated from each other.

It is answered that the same may be said of *cholera*. Yet, would persons unnecessarily expose themselves to *cholera?*

The practice of friends and neighbors collecting at the residence of an infected family to attend the funeral services of a person who has died of this disease, should be prohibited, for while adults may enter such a dwelling with comparative immunity to themselves, the disease being usually one of childhood, they *may* and frequently *do* carry the *poisonous infection* from the diseased family into their own homes, where it attacks and frequently destroys their children. Many instances of this kind occur every year. Hundreds of deaths will annually occur in this State from this disease, unless measures are taken to prevent its spread by contagion.

MEASLES.—The number of deaths from this disease in Michigan during the year 1869 was one hundred and forty-seven (147), and during the year 1870 fifty-six (56). The same preventive measures already enumerated for scarlet fever are applicable to this disease, and if enforced, would lessen the number of cases, and the mortality become proportionately reduced.

TYPHOID FEVER.—Whether this be considered a contagious or infectious disease, or both, under favoring conditions, whenever it exists, every precaution should be used to prevent its attacking the different members of a household, or the people of a neighborhood. Besides using the methods of prevention for infectious diseases, examine into the condition of the air and water supply of the persons affected, as many cases are believed to result from contamination of the atmosphere or water used, by gas or matter from decomposing animal refuse. If the source can be found, methods for preventing the further spread of the disease will be readily suggested.

### DISINFECTANTS AND METHODS OF DISINFECTION.

Ten pounds of sulphate of iron (copperas) dissolved in six gallons of water, with half a pint of crude carbolic acid added to the solution, and briskly stirred, makes a cheap and excellent disinfecting fluid for common use. If the carbolic acid is not at hand, the solution of copperas may be used without it.

To prevent infection or offensiveness of privies, water-closets, sewers, drains, and ditches, pour a pint of this strong solution into these receptacles once or twice daily, and to disinfect masses of filth in them, gradually pour in this solution until it reaches and disinfects all the foul material. Add enough of this solution to every evacuation of excreta from the infected person, to thoroughly disinfect every part of it. Keep a quantity of this disinfecting fluid in the chamber-vessel.

An excellent disinfecting fluid for chamber-vessels may be prepared by dissolving either two ounces of the chloride of lime, or two ounces of the chloride of zinc, or eight ounces of crude carbolic acid, in a gallon of water.

Dry charcoal, in fine pieces, is a most valuable disinfectant. A panful, or its equivalent in amount, should be kept in every sick-room.

Cellars which cannot be ventilated should have a quantity of this article placed in them. Charcoal will retain its disinfecting powers many months,—even years,—if kept dry. For disinfecting *extensive masses or surfaces of putrescent materials*, use either coarsely powdered charcoal, the disinfecting fluid first above mentioned, or "dead oil" ("heavy oil") of coal-tar, or coal-tar itself. Coal-tar may be used as a paint upon the walls of cellars, stables, and open drains.

White-washing with quick-lime should be practiced in common tenements, factories, basements, closets, and garrets. To disinfect clothing, bedding, and other materials capable of like treatment, throw them into a solution made as follows: One pound of chloride of zinc, six ounces of crude carbolic acid, and eight gallons of water, such articles to remain therein until thoroughly saturated with the liquid; then immediately place them in boiling water, and continue boiling for one hour. To disinfect rooms, apartments, and buildings, either paint or wash all wood-work, adding either two ounces of the chloride of zinc, or two ounces of the chloride of lime, or four ounces of crude carbolic acid, to every gallon of water. Soap should not be used with chloride of zinc or chloride of lime. The walls and ceilings of rooms should be first washed with the above-mentioned solution. They can then be either kalsomined, white-washed, or papered. If kalsomined, add to every gallon of the kalsomining liquid, either one-fourth pound of the chloride of zinc, or four ounces of crude carbolic acid. If the walls or ceilings are already papered, strip them of the paper on them; then apply the methods of cleansing already given.

### GASEOUS DISINFECTION, OR FUMIGATION.

These, like the other disinfectants, arrest the processes of fermentation, of putrefaction, and of the generation of infection, while they seem to destroy infection which is mature.

SULPHUROUS ACID GAS.—To fumigate with this, close all the openings of the room and arrange the upholstery, and spread out the other articles to be disinfected, so as to expose the greatest amount of surface to the action of the fumes; take a pan, or other metallic vessel, put some ashes in it, place a few live coals on the ashes, throw on to the coals a handful of sulphur (it requires the thorough combustion of nearly one and a half ounces of sulphur to disinfect one hundred cubic feet of air), place the vessel on the floor, and retiring from the room, close the door. Let the room remain closed from six to eight hours; then secure free ventilation by opening the doors and windows, being careful while doing so not to inhale any of the sulphurous vapors, and ventilate the room until all sulphurous odors disappear.

CHLORINE GAS.—To fumigate with this, proceed as before, and generate the gas by adding sulphuric acid to a mixture of common salt and peroxide of manganese (which can be obtained at any drug store), first adding a little water to the mixture before pouring on the acid. If used in rooms containing colored goods, the colors may be sacrificed by the bleaching properties of chlorine, but it is one of the best gaseous disinfectants.

SHIPS, DISINFECTION OF.—Besides the use of methods heretofore given, secure cleanliness of all places within reach, and continue to do so throughout the unloading of the vessel; procure ventilation by open hatches and "wind sails." Bilge-water should be pumped out daily, and before discharging a vessel as clean, water should be thrown down the pumps, left over night, then pumped out, and this process continued until the water comes up clear. In the case of an "infected ship,"—as shown by cases of infectious disease appearing among persons on shipboard while at sea, and after an absence from land of too long a time for the incubating period of the disease,—besides subjecting the vessel to the disinfecting processes before mentioned, the wood-work should be repainted and the unpainted wood-work white-washed.

The visitation of many of the "diseases dangerous to the public health" may be prevented by timely warning of their approach, and in view of the possible appearance of cholera in the West in the present year, increased vigilance is recommended on the part of Health Boards, especially those whose jurisdiction includes lake ports, railroad centers, the borders of navigable streams, railroad lines, or public thoroughfares.

If any contagious or infectious disease should exist, or any endemic or epidemic prevail within your jurisdiction, please immediately notify the State Board of Health, and also carefully note the rise, progress, and decline, of any such diseases, and the conditions existing during such times.

By direction of the State Board of Health.

Very respectfully,

Z. E. BLISS, M. D.,

*Chairman of Committee on Epidemic, Endemic, and Contagious Diseases.*

Circular of the chairman of the committee on epidemic, endemic, and contagious diseases, to the presidents of local boards, calling attention to the and their duties relative to dangerous diseases. April, 1874.